

CoCoRaHS - May 2008

There is a question that comes up fairly often when we talk about taking weather observations: isn't an automated system better? There are several things to consider when we look at automating data collection: what do we gain from the change, will it give us better observations, is it cost effective, what will the change mean to historical data?

There are no machines that can duplicate the judgment of a human observer and the ability of a human eye to discern a measurement. As we gain experience, our ability to judge increases, however the eye tends to lose some ability as we age, but we have ways to overcome that loss (I wear glasses to read). No machine can comprehend the entire focus of a weather observation the way a human observer can.

There are instances where the machine has an advantage. In cases where continuous observations are required, like an airport, the automated system stands ready at all times. As long as the limitations of the system are understood these automated system can be great. In measuring precipitation, many automated system lose up to 10% of the rainfall due to the tipping mechanism used to track the amount. The more precise instruments use a weighing mechanism to track precipitation and need to be calibrated on a regular schedule.

The last question was what will the change mean to historical data. Since 1870, the agency tasked with collecting precipitation reports in the United States has used a "bucket" with an 8" opening. Our CoCoRaHS gage was developed by the National Weather Service to measure at the same rate as the Standard 8" Rain Gage. [If fact, it has been shown that our gage actually does a better job in very light events.](#) So basically we have been using the same gage for the past 138 years. Data continuity is very important to researchers so that the use of the same instrument to measure precipitation is a huge plus in our program.

The National Weather Service Cooperative program that collects the official rainfall for America's climate is set up on a 25 by 25 square mile grid. That can mean a lot of space between each site. CoCoRaHS was developed to fill the gaps on the grid. If you've noticed the [national map](#) on the CoCoRaHS homepage, you can see that here in Tennessee you all have done an outstanding job of filling the gaps. We could use more observers particularly in Hardeman, Lake, Polk, and Scott counties.

If you've missed any of the past eNewsletters you can now go back and look at them on the [Tennessee page](#) of CoCoRaHS. Please share them with folks you know that are interested in weather.

Your CoCoRaHS Coordinators,
Joanne, Zwemer, Craig, & Ralph